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ABSTRACT

The Intervention/Prevention Program in the Wake County Public Schools (North Carolina) provides support to students who are experiencing academic, behavioral, family, and emotional difficulties that interfere with learning. The Student Support Team (SST) at each school provides this support. The SST is a collaborative, multidisciplinary team that is responsible for developing an action plan that supports the individual student. During the 1997-98 school year, 3,963 students were referred to the SST program. Most were being served in the regular classroom. About 50% of those referred identified themselves as male. About 66% of the academic concerns of these students were reported as "somewhat" or "a lot" improved during the school year. Behavior concerns of referred students improved at all grade levels, from 54% for grades 6 through 8 to 79% for high school students. Strategies were categorized as classroom-based, school support-based, or community-based. For each strategy recommended and implemented, a higher percentage rated the effectiveness as "good" compared to "poor." The SST program appears to provide an important service for at-risk students. (Contains 34 figures.) (SLD)

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INTERVENTION/PREVENTION GRANT EVALUATION 1996-98

Report No. 99.16
Department of Evaluation and Research
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WAKE COUNTY PUBLIC SCHOOL SYSTEM

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EXECUTIVE SUMMARY

Background

Since 1994, the North Carolina Department of Public Instruction has provided grant funding for an Intervention/Prevention Program (I/P) in the Wake County Public School System. The program's mission is to provide support to students and youth who are experiencing academic, behavioral, family, and emotional difficulties which interfere with learning. The Student Support Team (SST) at each school provides this support.

The SST is a collaborative, multidisciplinary team that is responsible for developing an action plan that supports and strengthens an individual student through the use of school and/or community-based strategies.

Results

The purpose of this evaluation was to respond to several questions related to the types of student referrals, the types of strategies recommended and implemented, and the effectiveness of the SST program.

During the 1997-98 school year, a total of 3,963 students were referred. Most students referred to the SST did not have an exceptional student classification and were being served in the regular classroom. Approximately 50 percent of those referred were male and 33 percent were female. The remaining 17 percent did not have sex coded on the scannable form.

The two most prevalent areas of concern were academics and behaviors. Approximately 66 percent of academic concerns were reported as "somewhat" or "a lot" improved during the 1997-98 school year. Behavior concerns improved at all grade levels. Approximately 64 percent of grades K-2, 65 percent of grades 3-5, 54 percent of grades 6-8 and 79 percent of high school behavior concerns improved.

Strategies were categorized as classroom-based, school support-based, or community-based. For each strategy recommended and implemented, a higher percentage rated the effectiveness as "good" compared to "poor."

Conclusions

The SST program provides an important service to students who are at-risk and their families. In most cases, referrals are handled in a timely manner. In addition, the students' presenting concerns improved during the school year.

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INTERVENTION/PREVENTION PROGRAM EVALUATION 1996-1998

In 1994-95, the Wake County Public School System received a grant from the North Carolina Department of Public Instruction to implement a pilot project known as the Intervention Prevention Program (I/P). The main purpose was to provide better support to students who were at-risk by collaborating with many human service agencies that work with children and families. The vehicle for change was the development of Student Support Teams (SSTs) to support students as a replacement for existing "teacher assistance teams" in nine schools. For the 1994-95 school year, a district/community committee selected schools through a competitive process for program participation.

The SST is a collaborative, multidisciplinary team that is responsible for developing an action plan that supports and strengthens an individual student through the use of school and/or community-based strategies. The SST model involves viewing students from a holistic perspective. That is, the SST must be inquisitive about the dynamics of all aspects in the student's environment and life circumstances to design appropriate and effective ways to increase success (e.g., academics, family, friends, affect, culture, behavior). The Coordinating Committee of the I/P program wrote and developed the *Guide to Strong SSTs* during the 1994-95 school year. *Guide to Strong SSTs* provided the framework for developing and implementing a successful SST process at an elementary, middle, or high school by defining specific goals for students and developing a plan of action to meet those goals.

Since 1994, the North Carolina Department of Public Instruction has continued to provide grant funding that supports the Intervention/Prevention Program in the Wake County Public School System. The program's mission is to provide support to students and youth who are experiencing academic, behavioral, family, and emotional difficulties which interfere with learning. The SST at each school provided this support through a collaborative team approach, generating individualized strategies that influence the interaction of environment, family, emotions, and learning on the child's life. The project grew, in three years, from the original group of nine schools piloting the project in 1994 (six elementary schools and three alternative schools), to 102 schools (67 elementary, 20 middle, 13 high, and 2 alternative school sites) during the 1997-98 school year.

For the past two years, the Evaluation and Research Department collected and analyzed data. This summative evaluation of grant activities focused on measuring the impact of the SST interventions and services on the students and youth served. A systematic process of data collection generated data to evaluate student performance, areas of concern, and strategy effectiveness.

PROGRAM DESCRIPTION

Student Support Teams are multidisciplinary (multi-agency) school-based teams that design and implement individualized action plans to strengthen and support students through school-based and/or community-based strategies. Implementation of the SST model consists of extensive training in three guiding practices.

- ✓ ***Individualized Interventions***: generating strategies which influence the interaction of holistic influences on the child's life (e.g., environment, family, emotional, learning).

- ✓ ***Collaborative Team Approach***: involving parents, school staff, and community agency representatives in partnership to provide services needed by the child.

- ✓ ***Capitalizing on Strengths***: remediating student weaknesses by building on strengths.

The SST approach is designed to assist schools in helping students-at-risk. Many of these students are challenged with a variety of concerns at school and at home. These challenges include health, education, and social service needs, which may negatively affect the learning process.

In public schools, a variety of factors associated with school failure may affect students at risk. Examples of risk factor conditions external to the school include poverty, unmet health needs and physical, emotional, and/or sexual abuse. Neither a single school nor a human service agency alone is capable of addressing the plethora of challenges these students face. In addition, students and families may often have difficulty in accessing school and community services. Consequently, students and families with numerous concerns may not know where or how to seek assistance.

The school based SST builds and renews connections and partnerships among school and community based human service agencies to provide help with risk factors. Several essential functions portray SSTs at the school site. These include assessment, development of an action plan, linking students to services, implementation, monitoring, and evaluation. Through collaborative interactions, SSTs establish a comprehensive service network where participants share the responsibility for students at risk of school failure and their families. Therefore, students and families receive a variety of services in a supportive, orderly, and coordinated fashion.

EVALUATION PLAN

Major issues addressed in the 1996-97 and 1997-98 evaluations focused on the impact of the SST process and the identification of interventions which appeared to be more successful than others in improving presenting concerns. The evaluation design also addressed specific questions about the SST program. For example, data was gathered indicating the time of initial referral and the initial meeting date.

Evaluation Questions

The purpose of this evaluation was to respond to several questions related to the types of student referrals, the types of strategies recommended and implemented, and the effectiveness of the SST program.

- ❑ Did the number of meetings and referrals occur at the same rate during the year?
- ❑ Were a large majority of the students identified as exceptional learners?
- ❑ Were presenting concerns more prevalent in any particular area(s)?
- ❑ Did students' academic grades improve after SST interventions?
- ❑ Did students who were referred for behavior concerns show improvement after SST interventions?
- ❑ Did students who were referred for emotional stability concerns show improvement after SST interventions?
- ❑ Did students who were referred for "other" concerns show improvement after SST interventions?
- ❑ Were some strategies more effective than others?

Data Collection Activities

The Wake County School System's Department of Evaluation and Research collected and analyzed data for the 1996-97 and 1997-98 school years. Activities focused on measuring the impact of the SST interventions and services on the students served. A systematic process of data collection generated data to evaluate student performance, areas of concern, and strategy effectiveness.

One technology innovation used for the evaluation was the creation of scannable program documentation. SST chairpersons completed scan forms on students referred to the Student Support Team. Compilation of the data from referral forms into a database allowed evaluators to provide pre-slugged information back to the SST coordinators who then provided comparison data and evaluated the effectiveness of their interventions. Educational

interventions encompassed areas of classroom-based strategies, school social work services, psychological services, family support services, school counseling services, Department of Health Services, community-based services referrals, special education referrals, and school-based support services. For 1997-98, strategies were grouped into three major classifications: classroom-based, school-based, and community-based. For both school years, SST coordinators collected baseline data when the SST discussed a student. A scan form was completed at the time of referral for each student. In June of each school year, the SST coordinators collected comparison data.

SST coordinators were expected to collect the forms and verify that the information was correct. The data forms were submitted to the Department of Evaluation and Research for processing and data analysis. The culmination of the data analysis is this report.

EVALUATION RESULTS

The Intervention/Prevention evaluation provides information related to demographics, presenting concerns, strategies and effectiveness, and changes in grades from referral to the end of the intervention. The demographic information provided includes gender and ethnic categories and student classification for special programs.

Ethnic and Gender Characteristics of Referrals

Of the 46 schools participating in the SST evaluation in 1996-97, there were 12 elementary schools, 19 middle schools, 12 high schools, and 3 alternative schools. SSTs completed scan forms for 1,279 students referred in 1996-97. Nearly twice as many males were referred as females.

Figure 1

Characteristics of SST Referrals for 1996-97

Gender	Black	White	Other
Male (n=831)	41%	55%	4%
Female (n=448)	48%	50%	2%
Total (n=1279)	43%	53%	3%

During the 1997-98 school year, there were 67 elementary schools, 20 middle schools, 13 high schools, and 2 alternative schools participating in the SST evaluation. Forms were completed for a total of 3,963 students. Of those referred, approximately 33 percent were female and 50 percent were male. For approximately 18 percent of student referrals, this data was unavailable.

Figure 2

Characteristics of SST Referrals for 1997-98

	Black	White	Other
Male (n=1960)	42%	53%	5%
Female (n=1301)	46%	48%	5%
Total (n=3261)	44%	51%	5%

Student Exceptionality Classification

The largest group of students referred to the SST attended regular classes and did not receive special education or special services. This was true for the 1996-97 school year (83 percent attended regular classes and did not receive special services) and the 1997-98 school year (84 percent). For the group of students who were receiving special education, specific learning disabled students received more referrals to SST (6 percent) than other groups in 1996-97. For the 1997-98 school year, students who were identified as speech/language impaired made up the largest number of special education services. Figure 3 summarizes student classification with percentages rounded.

Figure 3
Student Classification

Student Classification	1996-97	1997-98
None	83%	84%
Behavior/ Emotionally Handicapped	3%	2%
Gifted	2%	2%
Hearing/ Vision Impaired	0%	0%
Mentally Handicapped	1%	0%
Specific Learning Disabled	6%	3%
Speech/ Language Impaired	2%	4%
Other	3%	5%
Potential Dropout	Not available	2%
ESL	Not available	2%

A limited English proficient student is any student whose primary language is other than English and who is insufficiently proficient in the English language to receive instruction exclusively from regular educational programs and to function on an academic par with his/her peers[1]. The ESL or English as a Second Language Program is designed to help students who are limited English proficient to acquire the English language skills necessary to be successful in the classroom. The primary language of instruction is English.

During the 1996-97 school year, information regarding ESL students was not collected. During the 1997-98 school year, two percent of the students who were referred to SST were participating in an ESL program.

[1] See *Guidelines for Testing Students with Limited English Proficiency: North Carolina Statewide Testing Program Grades 3-12.*

Initial SST Request and First SST Meeting Dates

During or immediately after the first SST meeting following the initial referral, a scannable form was to be completed for each student. Part of the data collection on the scannable form included information on the date of request for involvement (initial referral) and the date of the first SST meeting. This information provided a snapshot view of how long it took to initially plan for a referred student. Data was not collected on the date of implementation of suggested strategies.

Figure 4 shows the initial request and date of the first meeting for the 1996-97 school year. After a small lag in the first two months of school, when referrals exceeded initial meetings, meetings and referrals occurred at about the same rate during the year with a decline in referrals toward the end of the year. Therefore, the SST waiting list appeared manageable.

Figure 5 shows the initial request and date of the first meeting for the 1997-98 school year. Compared to the 1996-97 school year, there was more time between the initial referrals and first meetings during the early months of the school year. During both years, more students were referred and discussed in September, October, and November than during other periods of the school year.

It should be noted that the number of referrals and initial meetings for the months of May, June, and July were very small. Lags and reasons for lags in meetings are not collected for individual students. Therefore, any assumptions made about the data should be with extreme caution.

Figure 4
Initial SST Request and First SST Meeting 1996-97

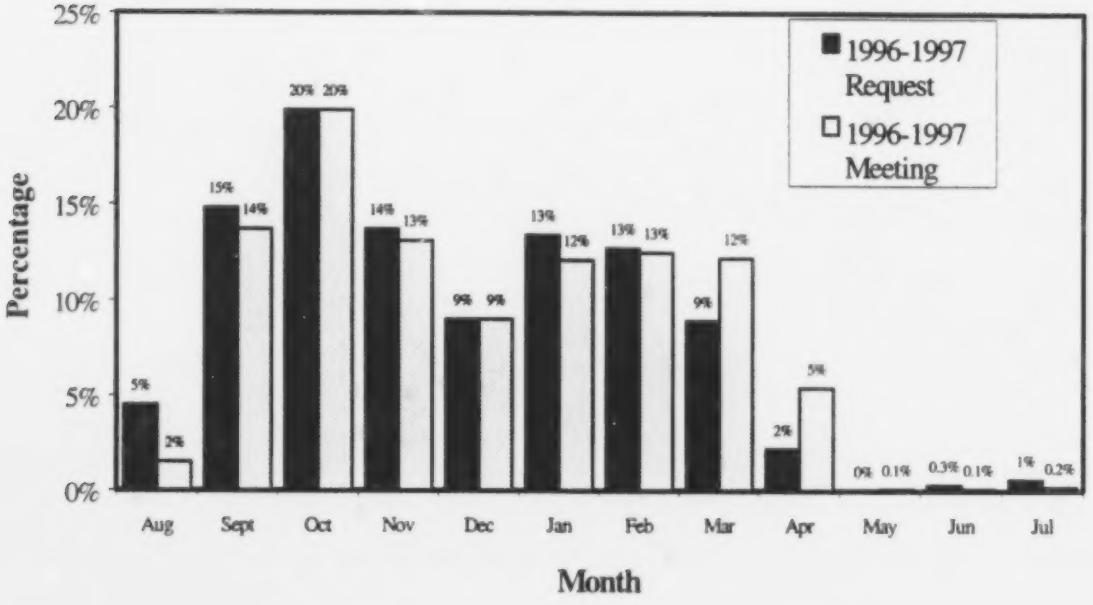
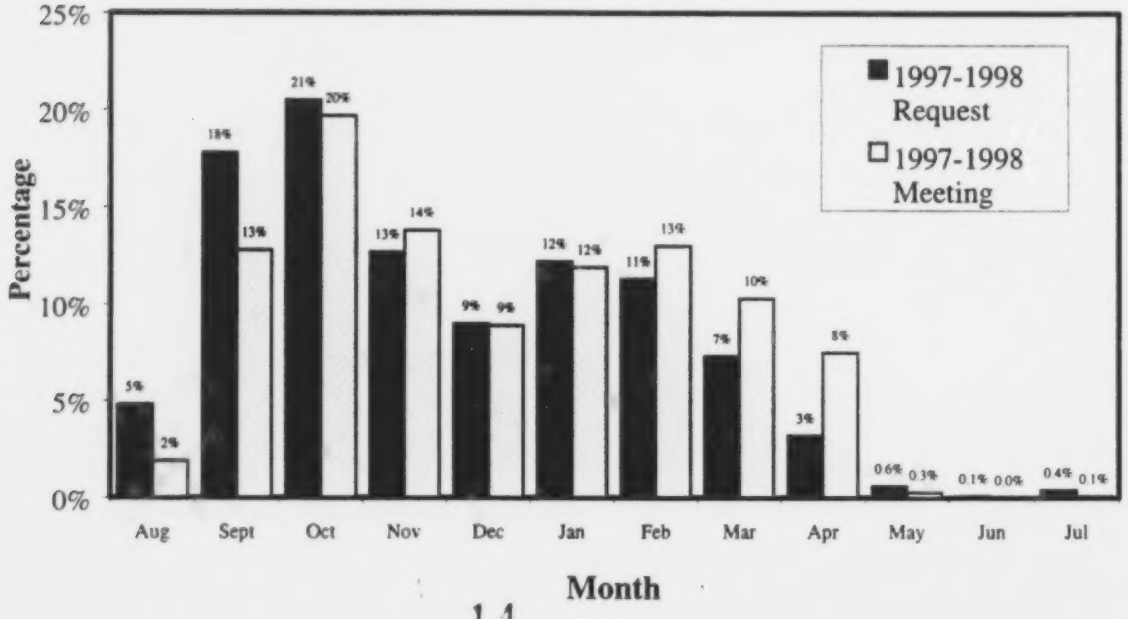


Figure 5
Initial SST Request and First SST Meeting 1997-98



Original Source of SST Referrals

At the time of the initial referral, data was collected on the referral source for each student. Referrals could be initiated in a number of ways, including school staff, outside agencies, or parents. Figure 6 displays original referral sources for the 1996-97 and 1997-98 school years with percentages rounded.

Figure 6

Original Source of SST Referrals

Source of Request	1996-97	1997-98
Administration	2%	2%
Guidance Counselor	12%	3 %
Nurse	1%	0%
Outside Agency	1%	0%
Parent/ Guardian	18%	14%
Program Specialist	0%	N/A
Psychologist	0%	0%
Teacher	58%	75%
Resource Teacher	1%	N/A
School Social Worker	2%	0%
Special Education Teacher	3%	3%
Central Office	N/A	0%
LART	N/A	0%
SAP	N/A	0%
Other	2%	1%

By a wide margin, regular education teachers (58% in 96-97 and 75% in 97-98) referred students to the SST more than any other group, followed by parents (18%, 14%). During the 1996-97 school year, guidance counselors made 12 percent of the referrals while in the 1997-98 school year, they made three percent of the referrals.

Categories of Presenting Concerns for SST Students

For the 1997-98 school year, presenting areas of concern were divided into five major categories: (1) academic patterns, (2) behavior patterns, (3) emotional/psychological behaviors, (4) family characteristics, and (5) other. The categories are summarized in Figure 7.

Figure 7
Categories of Presenting Concerns for the 1997-98 School Year

Academic Patterns	Behavior Patterns	Emotional/ Psychological Behaviors	Family Characteristics	Other
Handwriting	Attention	Lack of Confidence	Lack of Basic Needs	Attendance
Math Computation	Aggression	Inexplicable Crying	Death in a Family	Hearing
Math Problem Solving	Assignment Completion	Easily Frustrated	Extended/ terminal Illness	Medical
Memory	Following Directions	Exhibits Grief	Extended mental illness of immediate family member	Motor Skills
Oral Communication	Organizational Skills	Mood Changes	Family changes (i.e., separation, divorce, new member, recent move)	Retention
Reading	Social Skills	Lack of Motivation	Unemployment	Speech/ Language
Reading Comprehension	Social Skills	Relationship Concerns	Other	Vision
Written Language	Withdrawn	Low Self-esteem		Other
		Seems Preoccupied		
Other	Other	Other		

Presenting Concerns for SST Students

For each student referred, major areas of concern were bubbled on the scannable form. More than one concern could be bubbled for each student. The categories for major areas of concern were academic, behavior, family, emotional, and other. For the 1996-97 school year, academic concerns were the most prevalent (77%). Figure 6 summarizes areas of academic concern with percentages rounded.

Figure 8

Academic Concerns for 1996-97

Academic Concern	1996-97
Reading	47%
Math	41%
Written language	42%
Recall	15%
Oral communication	9%
Organization	25%
Other Academic concerns	20%

During the 1997-98 school year, academic concerns were also the most prevalent concerns (84%). For the 1997-98 school year, the categories for academic concerns were coded differently. Figure 9 summarizes areas of academic concern with percentages rounded.

Figure 9

Academic Concerns for 1997-98

Academic Concern	1997-98
Handwriting	23%
Math computation	36%
Math problem solving	43%
Memory	26%
Oral communication	14%
Reading	52%
Reading Comprehension	50%
Written language	55%
Other academic concerns	11%

For both school years, the second most prevalent concern was behavior (51% for 1996-97, 81% for 1997-98). Figure 10 summarizes areas of behavior concerns with percentages rounded.

Figure 10

Behavior Concerns for 1996-97

Behavior Concern	1996-97
Aggressive	15%
Acting out	27%
Withdrawn	9%
Non-compliant	22%
Other behavior concerns	13%

Figure 11 summarizes areas of behavior concerns with percentages rounded for the 1997-98 school year.

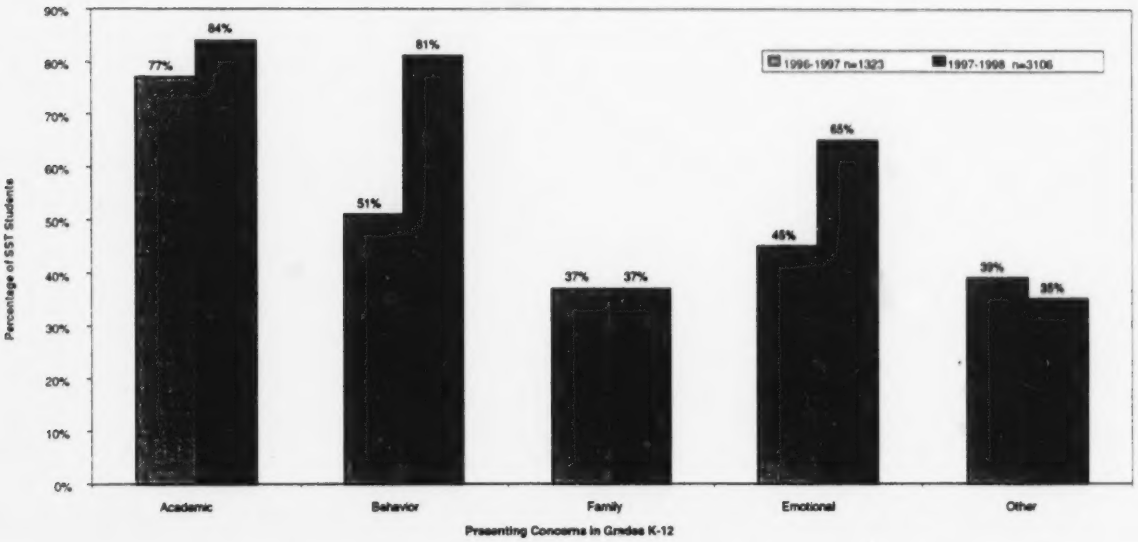
Figure 11

Behavior Concerns for 1997-98

Behavior Concern	1997-98
Attention	51%
Aggression	18%
Assignment completion	47%
Following directions	46%
Organizational skills	40%
Social skills	26%
Withdrawn	8%
Other behavior concerns	7%

For both years, the third most prevalent area of concern was emotional (45% for 1996-97, 65% for 1997-98). Family concerns were reported at 37% (1996-97) and 37% (1997-98). For 1996-97, the other category (39%) included AD/HD and medical concerns. For the 1997-98 school year, the other category (35%) included attendance, hearing, medical, motor skills, retention, speech/language, vision, and other.

Figure 12
Presenting Concerns in 1996-97 and 1997-98



Recommended for Presenting Concerns

For each student, strategies were recommended by the SST and coded on the initial form. Multiple strategies could be recommended. Strategies were grouped differently for the past two school years. Figure 13 depicts strategy classifications with percentages rounded.

Figure 13
Strategy Recommendations for 1996-97

Classification	1996-97
Classroom-based	79%
Family support services	46%
School counseling	44%
School-based support	39%
Special education	31%
School social work	31%
Psychological services	26%
Community	16%
Health	13%

For the 1997-98 school year there were three major strategy classifications: classroom-based (87%), school-based (85%), and community-based (16%). Figure 14 depicts the classroom strategies and percentage recommended for implementation. Figure 15 depicts the school-based strategies and Figure 16 depicts the community-based strategies recommended.

Modified instruction, flexible grouping, and parental involvement were the three classroom-based strategies recommended most frequently.

Figure 14
Percentage of Classroom-based Strategies Recommended in 1997-98

Strategy	Percent Recommended
Modified Instruction	52%
Flexible Grouping	45%
Parental Involvement	44%
Modified Environment	40%
Active Learning Strategies	39%
Feedback	38%
Coaching	34%
Assessment Strategies	29%
Behavioral Interventions	28 %
Teaching Styles Matched	21 %
Providing Study Skills	20 %
Other Classroom	10 %

Initial referral to special education, school conference, and individual counseling were the three most recommended school-based strategies during the 1997-98 school year.

Figure 15
Percentage of School-based Strategies Recommended in 1997-98

Strategy	Percent Recommended
Initial referral to special education	46%
School conference	31%
Individual counseling	18%
Reading specialist	16%
Volunteer outside tutor	13%
Other school support services	10%
Consultation on instructional modification	9%
Small group counseling	8%
Consult with related services	7%
Education program planning	7%
Home visit	6%
Parent education	6%
Change in teacher/schedule	5%
Change of placement in special education	4%
Family/community assessment	4%
Family counseling	3%
Peer mediation	3%
Alternative school in WCPSS	2%
ESL/Migrant Education	1%
Resiliency assessment	1%

Medical services, mental health services, and community resource referral were the community-based strategies most frequently recommended during the 1997-98 school year.

Figure 16
Percentage of Community-based Strategies Recommended in 1997-98

Strategy	Percent Recommended
Medical services referral	7%
Mental health referral	6%
Community resource referral	4%
Social services referral	2%
Alternative school outside WCPSS	1%
Legal services referral	1%

Effectiveness of Recommended Strategies

The strategies recommended for the 1997-98 school year were categorized as classroom based strategies, school support services, and community-based services. At the end of the year, SST coordinators were asked to code the number of strategies that were recommended and the level of effectiveness.

Multiple strategies could be recommended for a student. As one would expect, not all strategies recommended were implemented. For the classroom strategies implemented, the strategies were considered fair or good approximately 75 percent of the time. Strategies that were used and rated are listed by order of effectiveness in Figure 17.

Figure 17
Classroom-based Strategies Used during the 1997-98 School Year

	Effectiveness Rating		
Recommended Strategy	Good	Fair	Poor
Teaching styles matched (n=514)	47%	40%	13%
Parental involvement (n=1098)	45%	30%	24%
Flexible grouping (n=1015)	42%	41%	17%
Modified instruction (n=1145)	42%	42%	16%
Other classroom (n=280)	42%	38%	20%
Coaching (n=826)	41%	42%	18%
Assessment strategies (n=689)	40%	43%	17%
Feedback (n=843)	40%	44%	16%
Modified environment (n=919)	39%	41%	21%
Active learning (n=875)	37%	46 %	17%
Providing study skills (n=534)	34%	41%	25%
Behavior interventions (n=819)	34%	42%	24%

A number of school support services strategies were recommended for the 1997-98 school year. In general, all school support services that were implemented were rated as fair or good approximately 75 percent of the time. Strategies that were used and rated are listed by order of effectiveness in Figure 18.

Figure 18
School Support-based Services Strategies Used during the 1997-98 School Year

	Effectiveness Rating		
Recommended Strategy	Good	Fair	Poor
Change of placement in special education (n=215)	72%	11%	16%
Initial referral to Special Education (n=1041)	69%	23%	8%
Peer mediation (n=202)	62%	28%	10%
Consult with related services (n=232)	57%	24%	19%
Individual counseling (n=874)	57%	34%	10%
Alternative School in WCPSS (n=139)	56%	35%	8%
Small group counseling (n=376)	56%	35%	9%
Reading specialist (n=407)	56%	36%	8%
Volunteer outside tutor (n=412)	52%	34%	15%
Change in teacher/schedule (n=235)	51%	32	17%
Consultation on instructional modification (n=288)	51%	39%	10%
Education program planning (n=234)	50%	34%	16%
School conference (n=942)	50%	34%	17%
Parent education (n=240)	47%	33%	20%
Family counseling (n=195)	47%	34%	19%
Home visit (n=219)	45%	31%	24%
Other (n=243)	42%	43%	15%
ESL/Migrant education (n=95)	39%	44%	17%
Resiliency assessment (n=117)	37%	53%	11%
Family/community assessment (n=177)	35%	44%	21%

Community-based services were the third category of recommended strategies for the 1997-98 school year. With the exception of legal services referrals, most community-based strategies were rated good or fair approximately 75 percent of the time. Figure 19 depicts community-based strategies in order of effectiveness.

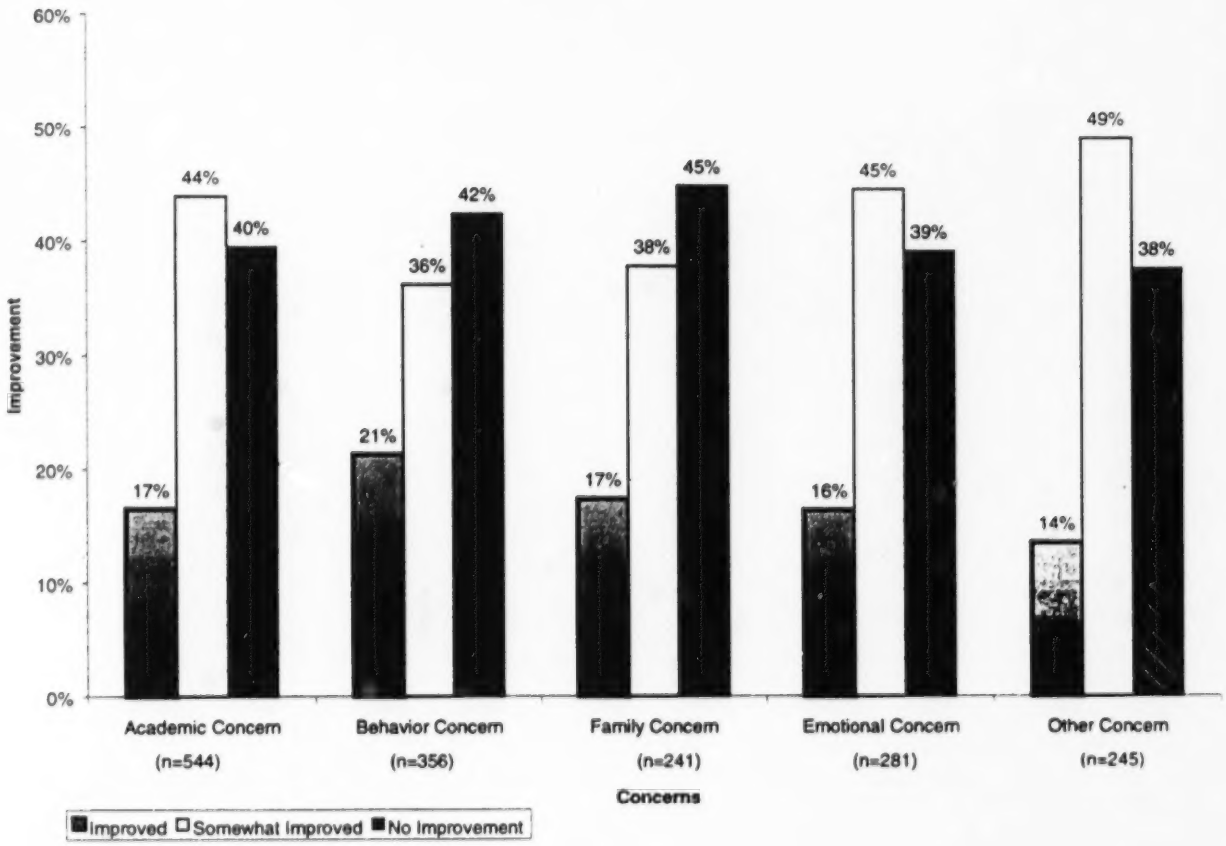
Figure 19
Community-based Services Strategies Used during the 1997-98 School Year

	Effectiveness Rating		
Recommended Strategy	Good	Fair	Poor
Medical services (n=272)	65%	24%	12%
Alternative school outside WCPSS (n=143)	65%	26%	10%
Community resource (n=206)	57%	30%	13%
Social services (n=145)	46%	29%	25%
Mental health (n=257)	46%	38%	16%
Legal services (n=88)	46%	14%	41%

Improvement for Presenting Concerns

For each student served by the SST, a follow-up scannable form was completed towards the end of the year. For each initial presenting concern, the team member completing the form was to indicate whether the concern *had improved a lot*, *improved somewhat*, or *had not improved*. The concerns categories were academic performance, behavior, dealing with family problems, emotional, and other concerns. Figure 20 summarizes the data for improvement of presenting concerns for the 1996-97 school year.

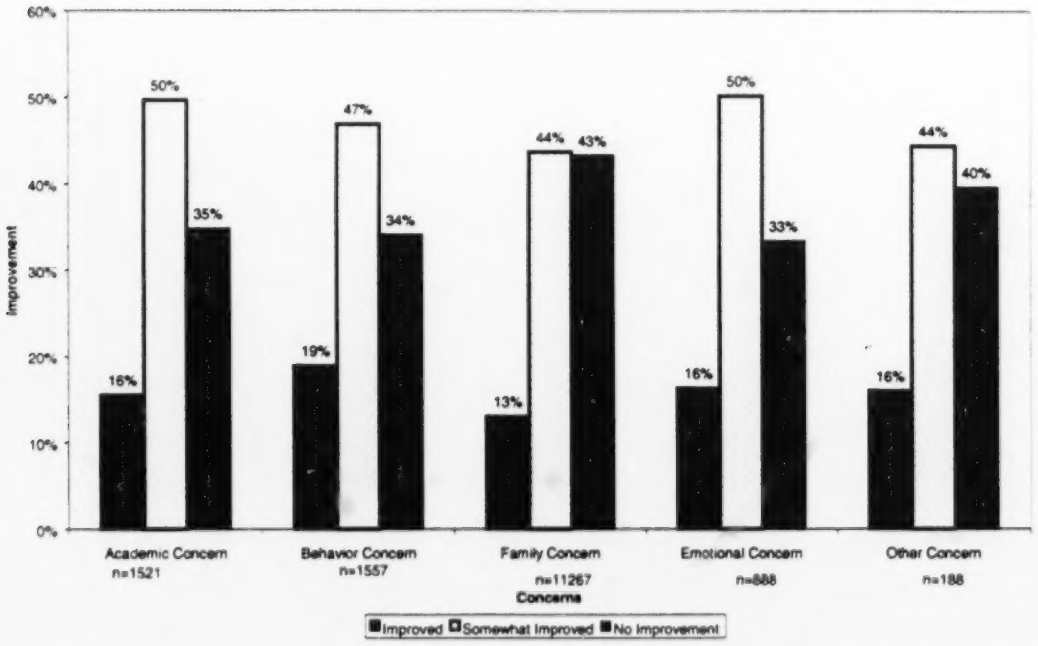
Figure 20
Improvement for Presenting Concerns in 1996-97



The same procedure was used for the 1997-98 school year. A scannable form was completed at the time of referral and towards the end of the school year. The presenting concern categories were academic patterns, behavior patterns, emotional/psychological behaviors, family characteristics, and other. (Descriptors for each category are provided in Figure 7 on page 10.) Each concern was rated as had improved a lot, improved somewhat, or had not

improved. Figure 21 summarizes the data for improvement of presenting concerns for the 1997-98 school year.

Figure 21
Improvement for Presenting Concerns in 1997-98



Presenting concerns for kindergarten through second grade were categorized as academic, behavior, emotional, family, or other concerns. For all categories, some improvement was reported. Figure 22 summarizes the data for improvement of presenting concerns for the 1997-98 school year with percentages rounded.

Figure 22
Improvement of Presenting Concerns for Grades K-2 in 1997-98

Concern	Yes, a lot	Yes, somewhat	Total Improved	No
Academic	13%	52%	65%	35%
Behavior	17%	46%	64%	37%
Emotional	10%	51%	61%	39%
Family	9%	43%	52%	48%
Other	11%	42%	53%	47%

The same categories of presenting concerns used for kindergarten through second grades were used for grades three through five also. There was improvement for each area of concern. However, for family concerns (n=299), approximately 52 percent reported no improvement compared to approximately 48 percent improvement. Figure 23 summarizes the data for improvement of presenting concerns for the 1997-98 school year.

Figure 23
Improvement of Presenting Concerns for Grades 3-5 1997-98 School Year

Concern	Yes, a lot	Yes, somewhat	Total Improved	No
Academic	15%	50%	65%	35%
Behavior	15%	49%	65%	36%
Emotional	12%	50%	62%	38%
Family	9%	39%	48%	52%
Other	14%	38%	53%	47%

In grades six through eight, from the time of initial concern to the end-of-the year, all concerns improved some. Improvement for presenting concerns ranged from approximately 45 percent to 56 percent. However, for emotional concerns and family concerns the percent of "no improvement" (53 percent, 56 percent) was higher than the percent of improvement. Figure 24 summarizes the data for improvement of presenting concerns for the 1997-98 school year for six through eighth grades.

Figure 24
Improvement of Presenting Concerns for Grades 6-8 1997-98 School Year

Concern	Yes, a lot	Yes, somewhat	Total Improved	No
Academic	20%	37%	56%	44 %
Behavior	16%	38%	54%	46%
Emotional	16%	31%	47%	53%
Family	10%	35%	45%	56%
Other	19%	33%	51%	49%

All areas of presenting concerns showed improvement for high school students by the end of the year. The ranges for total improvement were approximately 74 percent (other) to 84 percent (emotional). In general, the percent of improvement for high school students was greater than for students at other grade levels. Total improvement for academic (n=220) was approximately 77 percent, behavior (n=390) was 79 percent, emotional (n=283) was 84 percent, family (n=380) was approximately 75 percent, and other (n=237) was approximately 74 percent.

Figure 25
Improvement of Presenting Concerns for High School Students in 1997-98

Concern	Yes, a lot	Yes, somewhat	Total Improved	No
Academic	20%	58%	77%	23%
Behavior	27%	53%	79%	21%
Emotional	25%	59%	84%	16%
Family	22%	53%	75%	25%
Other	20%	54%	74%	26%

Comparison of Initial Referral Grades with End of Year Grades

SST coordinators provided information on the initial scan form when a student was referred to the SST. In addition to recording presenting concerns, the student's current grades were also recorded. Grades recorded on the initial scan form were compared with student grades recorded on the end-of-year scan form. At the end of the year, SST coordinators were also asked to provide information related to improvement of initial referral concerns. The following information is provided for students in kindergarten through grade five. Only those students whose initial referral and end-of-year scan sheets were returned are included.

Comparison of Initial Referral Grades with End of Year Grades for Kindergarten Students

Figure 26
Kindergarten Grades for the 1996-97 School Year

Skills	Improved	Stayed the Same	Worsened
Social Skills	34%	51%	14%
Work Habits	27%	53%	21%
Language Skills	32%	38%	29%
Total n=34			

Figure 27
Kindergarten Grades for the 1997-98 School Year

Skills	Improved	Stayed the Same	Worsened
Social Skills (n=89)	34%	36%	30%
Work Habits (n=89)	36%	28 %	36%
Language Skills (n=87)	28%	41%	31%

Comparison of Initial Referral Grades with End of Year Grades for Grades 1 & 2

The same procedure for grade collection was followed for first and second grade students who were referred to the SST. Grades recorded on the initial scan form were compared with student grades recorded on the end-of-year scan form. SST coordinators filled in information on the initial scan form when a student was initially referred to the SST. They recorded final grades at the end of the school year.

For the 1996-97 school year, students were graded on reading, written language, math computation, math problem solving, completes assignments, and follows directions. Commendable, satisfactory, or needs improvement were the grades assigned. In addition, an instructional level (above, on, below grade level) was assigned for reading, written language, math computation, and math problem solving. For all categories, most students either improved or stayed the same.

Figure 28
First and Second Graders End-of-Year Grades in 1996-97

Skills	Improved	Stayed the Same	Worsened
Reading (n=91)	23%	71%	5%
Written Language (n=92)	24%	66%	10%
Math Computation (n=92)	18%	71%	11 %
Math Problem Solving (n=90)	18%	70%	12%
Completes Assignments (n=87)	29%	55%	16%
Follows Directions (n=88)	23%	58%	19%

A similar pattern was shown in grade improvement for the 1997-98 school year. Most students either improved or stayed the same compared with the percentage that worsened.

Figure 29
First and Second Graders End-of-Year Grades in 1997-98

Skills	Improved	Stayed the Same	Worsened
Reading (n=480)	24%	66%	11%
Written Language (n=477)	20%	69%	11%
Math Computation (n=467)	19%	69%	12%
Math Problem Solving (n=464)	16%	70%	14%
Completes Assignments (n=453)	28%	61%	11%
Follows Directions (n=443)	25%	63%	13%

Comparison of Initial Referral Grades with End of Year Grades for Grades Three through Five

Grades were recorded at the time of initial referral and then at the end of the school year. For each academic area during the 1996-97 school year, approximately 20 to 29 percent improvement was shown. Language arts and mathematics had the highest percent improvement. For approximately 39 to 49 percent, grades remained the same. For approximately 23 to 39 percent, grades worsened.

Figure 30
Third through Fifth Graders End-of-Year Grades in 1996-97

Skills	Improved	Stayed the Same	Worsened
Language Arts (n=73)	29%	44%	27%
Mathematics (n=74)	28%	49%	23%
Science(n=71)	21%	39%	39%
Social Studies (n=70)	23%	44%	33%

For the 1997-98 school year, third through fifth graders showed improved grades for all academic areas. The range of improvement was somewhat higher than for 1996-97. The range for 1997-98 was approximately 29 percent to 33 percent compares to 20 to 29 for the previous year.

Figure 31
Third through Fifth Graders End-of-Year Grades in 1997-98

Skills	Improved	Stayed the Same	Worsened
Language Arts (n=431)	30%	53%	17 %
Mathematics (n=426)	29%	52%	20%
Science(n=402)	29%	45%	26%
Social Studies (n=410)	33%	42%	24%

EVALUATION QUESTIONS

The purpose of this evaluation was to respond to several questions related to the types of student referrals, the types of strategies recommended and implemented, and the effectiveness of the SST program.

Did the number of meetings and referrals occur at the same rate during the year?

From the data collected for the 1997-98 school year, it appears that meetings and referrals occurred at about the same rate for most of the year. There was an initial lag during August and September, when referrals exceeded initial meetings. This pattern was also true for the 1996-97 school year.

Were a large majority of the students identified as exceptional learners?

No. Most students were not identified as exceptional learners. In addition, few of the students (two-percent) were receiving services in an ESL program.

Were presenting concerns more prevalent in any particular area(s)?

Academic concerns followed by behavior were the most prevalent during the 1997-98 school year. This was also true of the 1996-97 school year.

Did students' academic grades improve after SST interventions?

Approximately 66 percent of academic concerns were reported as "somewhat" or "a lot" improved for the 1997-98 school year. Actual grades varied for elementary students. For the 1997-98 school year, approximately a third of the kindergarten grades improved in social skills and work habits. Language skills improved for approximately 28 percent of students. The percentage of students who improved in first and second grades ranged from approximately 16 percent for math problem solving to 28 percent for completing assignments during the 1997-98 school year. Improvement for third through fifth graders ranged from approximately 29 percent in mathematics and science to 30 percent in language arts. It should be noted that most grades remained the same for all elementary students during the 1997-98 school year.

Did students who were referred for behavior show improvement after SST interventions?

Yes. The majority of students with behavior concerns showed some improvement. Figure 32 depicts the total percentage of improvement.

Figure 32
Improvement of Behavior Presenting Concerns in 1997-98

Grade Level	Total Improved	No Improvement
K-2	64%	37%
3-5	65%	36%
6-8	54%	46%
High School	79%	21%

Did students who were referred for emotional stability concerns show improvement after SST interventions?

With the exception of middle school, most students showed improvement. For middle school students, 47 percent showed improvement while 53 percent showed no improvement for emotional presenting concerns. If this trend continues in the middle school, further investigation will be needed to determine why more students are not showing improvement.

Figure 33
Improvement of Emotional Presenting Concerns in 1997-98

Grade Level	Total Improved	No Improvement
K-2	61%	39%
3-5	62%	38%
6-8	47%	53%
High School	84%	16%

Did students who were referred for "other" concerns show improvement after SST interventions?

Yes, there was some improvement shown for all grade levels during the 1997-98 school year. For kindergarten through eighth grade, the total improvement and no improvement were fairly close. For high school, total improvement was significantly higher than for those who did not improve. It should be noted that the "other" category is quite varied. For example, it includes an attendance category and an "other" category.

Figure 34
Improvement of Other Presenting Concerns in 1997-98

Grade Level	Total Improved	No Improvement
K-2	53%	47%
3-5	53%	47%
6-8	51%	49%
High School	74%	26%

Were some strategies more effective than others?

Strategies for the 1997-98 school year were categorized as classroom-based (see Figure 14, page 14), school support strategies (see Figure 15, page 15) or community-based (see Figure 16, page 15). For each individual strategy that was recommended and implemented, the percentage that reported an effectiveness rating of "good" was much higher than those rated as "poor." This might suggest that the types of strategies that were recommended and implemented were quite appropriate and successful for those students.

It appears that the SST program continues to provide an invaluable service to students at-risk and their families. Meetings for student referrals were held in a time sensitive manner. For those students referred, a large majority showed improvement for their areas of presenting concerns by the end of the year. In addition, those recommended and implemented strategies were highly successful for classroom-based, school support services, and community-based services.

RECOMMENDATIONS

The SST program provides an important service to students who are at-risk and their families. The implementation of technology to assist in program evaluation has proven effective. In the future, it may be helpful to collect additional data using the scannable forms. For example, SSTs may find it helpful to know whether an individual student is referred multiple times during a school year. They may also wish to code when a student leaves the system prior to the end of the school year. SSTs may also wish to know the length of time between strategy recommendations and implementation, as well as intensity of the actual implementation.

Quantitative data provides an invaluable resource in program evaluation. However, it does not always provide the full picture. A qualitative component to the intervention/prevention evaluation could provide invaluable information for program improvement. It should be noted that qualitative methods often require more resources for data collection and more time for analysis than quantitative data. There are a few software programs that may be useful in analyzing qualitative data.

The Intervention/Prevention staff and the Evaluation and Research staff should meet in the spring to determine what evaluation questions should be answered in the following school year. At that time, staff could determine whether a qualitative component is desired and feasible for future evaluation efforts.

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